

DIRECTED PRACTICE

ESTIMATED TIME 15 MIN



How Fish Float

GROUPING

small groups

MATERIALS PER GROUP

- plastic bowl with water
- balloon (large)
- L-shaped straw
- plastic bottle
- four marbles
- thread

OBJECTIVE

Students will understand how fish float.

TEACHER BACKGROUND

Fish do not consume a lot of energy while swimming because they have a special structure called a swim bladder. It is a gas-filled internal structure that helps fish maintain buoyancy. A swim bladder can be found in bony fish but not in cartilaginous fish.

ADVANCE PREPARATIONS

- Gather the materials for this practice.
- Prepare stations with the materials.
- Divide children into small groups and assign each group to a station.



SAFETY PRECAUTION

Have students wash their hands after they finish the practice.

DIRECTED PRACTICE

MATERIALS



How Fish Float



Ask a question: How do fish go up and down?

- 1 Tie the mouth of a balloon around one end of the straw.
- 2 Put the marbles in the bottle.
- 3 Put the balloon inside the bottle.
- 4 Put the bottle inside the bowl of water until the bottle is filled with water.

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SCIENCE SKILLS

By the end of this practice, students will have used the following science skills:

- Observe
- Record observations
- Infer



ANCHOR ACTIVITY

Use the Anchor Activity for this lesson as a warm-up to gauge student prior knowledge and help them engage at the beginning of class.

5 Blow into the straw.

6 **Observe**
What happens? **Record** your results.

7 **Infer**
How are fish adapted to float in water?

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EXPECTED RESULTS

The bottle will rise in water.

EXPLANATION

The density of the bottle will decrease because the water inside the bottle is being replaced with air.

CONCLUSION

Fish maintain buoyancy using a swim bladder.

STEPS

1 **ASK** How do you think fish float? **Possible answer:**
The shape of the fish lets it float easily.

Do not correct them at this point. Have each group tie the mouth of a balloon around one end of the straw.

2 Encourage each group to choose a volunteer to put the marble inside the bottle.

3 Have each group put the balloon inside the bottle.

4 Place the bottle inside the water bowl horizontally, so it will be filled with water.

5 Have volunteers blow into the straw to inflate the balloon.

6 **Observe.** Encourage students to observe what happens and record their observations.
Possible answer: The bottle will rise up.

7 **Infer.** Help students infer how fish float in water by using their observations.
Possible answer: Fish have an organ called a swim bladder that helps them go up and down in the water.